

Silicon Nitride	Pricing >
Silicon Nitride Balls	Pricing >
Silicon Nitride Crucible	Pricing >
Silicon Nitride Fiber	Pricing >
Silicon Nitride Foam	Pricing >
Silicon Nitride Foil	Pricing >
Silicon Nitride Honeycomb	Pricing >
Silicon Nitride Mesh	Pricing >
Silicon Nitride Nanofiber	Pricing >
Silicon Nitride Nanoparticle Dispersion	Pricing >
Silicon Nitride Nanoparticles	Pricing >
Silicon Nitride Powder	Pricing >
Silicon Nitride Rod	Pricing >
Silicon Nitride Spheres	Pricing >
Silicon Nitride Sponge	Pricing >
Silicon Nitride Sputtering Target	Pricing >
Silicon Nitride Tubes	Pricing >
Silicon Nitride Wafer	Pricing >
Silicon Nitride Whisker	Pricing >
Silicon Nitride Windows	Pricing >
Silicon Nitride Wool	Pricing >

Linear Formula	Si ₃ N ₄
Pubchem CID	3084099
MDL Number	MFCD00011230
EC No.	234-796-8
IUPAC Name	N/A
Beilstein/Reaxys No.	N/A
SMILES	N13[Si]25N4[Si]16N2[Si]34N56
Inchl Identifier	InChI=1S/N4Si3/c1-5-2-6(1)3(5)7(1,2)4(5)6
Inchl Key	HQVNEWCFYHHQES-UHFFFAOYSA-N

Signal Word	N/A
Hazard Statements	N/A
Hazard Codes	N/A
Risk Codes	N/A
Safety Statements	N/A
Transport Information	N/A

[Create Printable PDF](#)

SAFETY DATA SHEET

Date Accessed: 05/13/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #12033-89-5

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
GHS07
STOT SE 3 H335 May cause respiratory irritation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Xi; Irritant
R37: Irritating to respiratory system.
Information concerning particular hazards for human and environment:
N/A
Hazards not otherwise classified
No data available
Label elements

Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labeled according to
the CLP regulation.
Hazard pictograms



GHS07

Signal word

Warning

Hazard statements

H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing

dust/fume/gas/mist/vapors/spray.

P304+P340 IF INHALED: Remove person to fresh air
and keep comfortable for breathing.

P312 Call a POISON CENTER/doctor/.../if you feel
unwell.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep
container tightly closed.

P501 Dispose of contents/container in accordance
with local/regional/national/international regulations.

WHMIS classification

Not controlled

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

1

0

1

Health (acute effects) = 1

Flammability = 0

Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

CAS No. / Substance Name:

12033-89-5 Silicon(IV) nitride

Identification number(s):

EC number: 234-796-8

SECTION 4. FIRST AID MEASURES

Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Silicon oxide

Nitrogen oxides (NO_x)

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the

environment without official permits.
Do not allow product to enter drains, sewage systems,
or other water courses.
Do not allow material to penetrate the ground or soil.
Methods and materials for containment and cleanup:
Ensure adequate ventilation.
Prevention of secondary hazards:
No special measures required.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection
equipment.
See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and
fires:
The product is not flammable
Conditions for safe storage, including any
incompatibilities
Requirements to be met by storerooms and
receptacles:
No special requirements.
Information about storage in one common storage
facility:
Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical
systems:
Properly operating chemical fume hood designed for
hazardous chemicals and
having an average face velocity of at least 100 feet
per minute.
Control parameters
Components with limit values that require monitoring
at the workplace:
The product does not contain any relevant quantities

of materials with critical values
that should be monitored at the workplace.
Additional information: No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for
handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing
immediately.
Wash hands before breaks and at the end of work.
Maintain an ergonomically appropriate working
environment.
Breathing equipment:
Use suitable respirator when high concentrations are
present.
Recommended filter device for short term use:
Use a respirator with type N95 (USA) or PE (EN 143)
cartridges as a backup to engineering controls. Risk
assessment should be performed to determine if air-
purifying respirators are appropriate. Only use
equipment tested and approved under appropriate
government standards.
Protection of hands: Impervious gloves
Inspect gloves prior to use.
Suitability of gloves should be determined both by
material and quality, the latter of which may vary by
manufacturer.
Penetration time of glove material (in minutes): No
data available
Eye protection: Safety glasses
Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Solid in various forms
Color: Pale grey
Odor: Odorless
Odor threshold: No data available.
pH: N/A
Melting point/Melting range: 1900 °C (3452 °F) (subl)
Boiling point/Boiling range: No data available
Sublimation temperature / start: No data available
Flammability (solid, gas): No data available.
Ignition temperature: No data available
Decomposition temperature: No data available
Autoignition: No data available.
Danger of explosion: No data available.
Explosion limits:
Lower: No data available

Upper: No data available
Vapor pressure: N/A
Density at 20 °C (68 °F): 3.2 g/cm³ (26.704 lbs/gal)
Relative density: No data available.
Vapor density: N/A
Evaporation rate: N/A
Solubility in Water (H₂O): No data available
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
No data available
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with strong oxidizing agents
Conditions to avoid
No data available
Incompatible materials:
Oxidizing agents
Hazardous decomposition products:
Silicon oxide
Nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity: No effects known.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: May cause irritation
Sensitization: No sensitizing effects known.
Germ cell mutagenicity: No effects known.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: May cause respiratory irritation.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information:
Do not allow material to be released to the environment without official permits.
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult official regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, ADN, IMDG, IATA
N/A
UN proper shipping name
DOT, ADN, IMDG, IATA

N/A
Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class
N/A
Packing group
DOT, IMDG, IATA
N/A
Environmental hazards:
N/A
Special precautions for user
N/A
Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.
Annex XIV of the REACH Regulations (requiring
Authorisation for use)
Substance is not listed.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried
out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
